Serial No. 10/023,501

Atty. Docket No. LeA 35 012

Amended Claims (Attorney Docket No. LeA 35 012)

1.   (Currently amended) An automatable method for identifying cancer cells and their precursors cells in a cell or tissue sample, characterized in that at least two molecular markers in a single cell are detected simultaneously comprising the steps of

selecting at least two molecular markers of cancer that individually do not achieve sufficient specificity with regard to detecting cancer in said cells,

contacting the a cell sample or tissue sample with color-marked signaling reagents that specifically bind to the at least two molecular markers,

simultaneously detecting signal intensities of color mixtures resulting from the markers within a constituent region of a tissue section, and

combining and accrediting the signal intensities, thereby identifying cancer cells and their precursors in the cell or tissue sample.

2.   (Currently amended) The method according to claim 1, further comprising the step of automatically processing the signal intensities into image information and consolidating said information into a proposed diagnosis using a linked diagnostic expert system characterized in that an automatic information processing is linked to a diagnostic expert system which consolidates the image information into a proposed diagnosis.

3.   (Currently amended) The method according to claim 1, wherein the signaling reagents produce chromogenic color or fluorescence molecular markers are detected quantitatively by analyzing the signal intensities of chromogenic color reactions or fluorescence signals in constituent regions of the cell, with color mixtures or the spatial proximity of the individual colors providing additional information as compared with single stainings.

4.   (Currently amended) The method according to claim 1, wherein the at least two molecular markers combinations are selected from the group consisting of:
her2/neu and Ki67, her2/neu and p53, her2/neu and bcl-2, her2/neu and MN, her2/neu and mdm-2, her2/neu and EGF receptor, bcl-2 and Ki67, bcl-2 and MN, bcl-2 and mdm-2, bcl-2 and EGF receptor, her2/neu and bcl-2, p53 and bcl-2, p53 and MN, p53 and mdm-2, p53 and EGF receptor, p16 and p53, p16 and MN, p16 and mdm-2, p16 and EGF receptor, p16 and Ki67, p16 and her2/neu, p16 and bcl-2, MN and mdm-2, MN and EGF receptor, mdm-2 and EGF receptor.

9

5. (Currently amended) The method according to claim 1, characterized in that wherein the sample is obtained from tumors of the mammary gland, the lung, the cervix, the colon, the skin and the prostate are detected.

6. (Cancelled).

7. (Currently amended) A test kit for implementing the method according to claim 1 comprising reagents for detecting molecular markers makers, auxiliary agents, reagents for staining cells, controls, and protocols.

10

Serial No. 10/023.501

<div align="right">Atty. Docket No. LeA 35 012</div>

New Claims (Attorney Docket No. LeA 35 012)

8.   (New) The method according to claim 1, wherein the at least two molecular markers are selected from the group consisting of her2/neu, p16, p53, Ki67, MN, mdm-2, bcl-2, and EGF receptor.

11